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(FILE 'HOME' ENTERED AT 16:37:16 ON 01 AUG 2002)

INDEX 'ADISALERTS, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO,
CABA,
CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 16:37:25 ON
01 AUG 2002

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, BIOTECHNO, SCISEARCH, USPATFULL'
ENTERED AT 16:38:02 ON 01 AUG 2002

L1 13956 S DEMIDASE OR AMIDASE
L2 677 S L1 AND FLAVOBACTERIUM OR CHRYSEOBACTERIUM
L3 474 S L2 AND (ISOLAT? OR PURIF?)
L4 211 S L1 (P) L2
L5 123 DUP REM L4 (88 DUPLICATES REMOVED)
L6 86 S L5 AND (ISOLAT? OR PURIF?)
L7 63 S L6 AND PY<1999
L8 0 S L7 AND DEAMIDASE
L9 727 S DEAMIDASE
L10 12 S L9 AND (FLAVOBACTER? OR CHRYSEOBACTER?)
L11 8 DUP REM L10 (4 DUPLICATES REMOVED)

=> d l11 ibib ab 1-8

L11 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:432945 CAPLUS

DOCUMENT NUMBER: 135:42762

TITLE: Protein-deamidating enzyme, microorganism producing the same, gene encoding the same, production process therefor, and use thereof

INVENTOR(S): Yamaguchi, Shotaro

PATENT ASSIGNEE(S): Amano Enzyme Inc., Japan

SOURCE: Eur. Pat. Appl., 43 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1106696	A1	20010613	EP 2000-310768	20001204
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001218590	A2	20010814	JP 2000-368983	20001204
PRIORITY APPLN. INFO.:			JP 1999-345044	A 19991203

AB The invention involves an enzyme which removes amido groups from proteins and releases side-chain carboxyl groups and ammonia. The enzyme acts directly on amido groups without cleaving peptide bonds and without crosslinking a protein substrate and is therefore called protein deamidating enzyme. The invention also claims polypeptide and nucleotide sequences for the enzyme. In addn., this invention claims methods for the prodn. of an enzyme, which comprise culturing in a medium a strain that belongs to a bacterium classified into Cytophagales or Actinomycetes, or a new bacterium **Chryseobacterium** sp. No. 9670 belonging to the genus **Chryseobacterium**, and has the ability to produce an enzyme having property to deaminate amido groups in protein, thereby effecting prodn. of the enzyme, and subsequently collecting the enzyme from the culture mixt. A method for the modification of an enzyme using the native or recombinant protein deamidating enzyme and a method and compn. for the modification of a protein substrate using the native or recombinant protein deamidating enzyme are also claimed. Methods for use of a recombinant protein deamidating enzyme involve using a gene which encodes the enzyme, a recombinant vector which contains the gene, a transformant transformed with the vector and a method in which the transformant is cultured in a medium to effect prodn. of the protein-deamidating enzyme and then the protein-deamidating enzyme is collected. Uses of the protein deamidating enzyme include for improvement of proteins in food and alterations in protein and food properties such as soly., foamability, and emulsifying ability. A purified protein deamidating enzyme was obtained from a new microorganism, **Chryseobacterium** strain 9670, and its activity measured by release of ammonia from Cbz-Gln-Gly and casein assay substrates. Protease and transglutaminase activities of the purified protein deamidating enzyme were not detected. Several protein substrates, including wheat gluten, egg white protein, and soybean protein, were

treated with the **Chryseobacterium** deamidating enzyme and
pH-soly. curves of the substrates were detd.
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L11 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:84446 CAPLUS
DOCUMENT NUMBER: 132:119242
TITLE: Protein-deamidating enzyme and its
Chryseobacterium gleum gene and uses in the
food industry
INVENTOR(S): Yamaguchi, Shotaro; Matsuura, Akira
PATENT ASSIGNEE(S): Amano Pharmaceutical Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 57 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 976829	A2	20000202	EP 1999-304367	19990604
EP 976829	A3	20000216		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6251651	B1	20010626	US 1999-324910	19990603
JP 2000050887	A2	20000222	JP 1999-158703	19990604
PRIORITY APPLN. INFO.:			JP 1998-173940	A 19980604

AB An enzyme is provided which has an activity to release side chain
carboxyl
groups and ammonia from a protein by acting upon side chain amido groups
in the protein. This invention relates to a method for the prodn. of an
enzyme, which comprises culturing in a medium a strain that belongs to a
bacterium classified into Cytophagales or Actinomycetes has the ability
to
produce an enzyme having a property to deaminate amido groups in protein,
thereby effecting prodn. of said enzyme, and subsequently collecting said
enzyme from the culture mixt. The gene encoding the enzyme was isolated
and sequenced from **Chryseobacterium** gleum, and shown to encode a
319-residue protein including a 134-amino acid prepro moiety. The
protein-deamidating enzyme can be used as a reagent for use in the
functional modification of protein, i.e., in protein engineering.
Deamidation of plant and animal food proteins results in improved
functional properties (soly. and dispersibility) for the prepn. of
numerous food products. The protein-deamidating enzyme can also be used
as a reaction controlling agent for transglutaminase.

L11 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:552802 CAPLUS
DOCUMENT NUMBER: 133:277885
TITLE: A novel protein-deamidating enzyme from
Chryseobacterium proteolyticum sp. nov., a
newly isolated bacterium from soil
AUTHOR(S): Yamaguchi, Shotaro; Yokoe, Masaaki
CORPORATE SOURCE: Gifu R & D Center, Amano Pharmaceutical Co., Ltd.,
Gifu, 509-0108, Japan
SOURCE: Applied and Environmental Microbiology (2000), 66(8),
3337-3343
CODEN: AEMIDF; ISSN: 0099-2240
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A novel protein-deamidating enzyme, which has potential for industrial
applications, was purified from the culture supernatant of

Chryseobacterium proteolyticum strain 9670T isolated from rice field soil in Tsuba, Japan. The deamidating activities on carboxybenzoxy (CBZ)-Gln-Gly and caseins and protease activity were produced synchronously by the isolate. Both deamidating activities were eluted as identical peaks sepd. from several proteases by phenyl-Sepharose chromatog. of the culture supernatant. The enzyme catalyzed the deamidation of native caseins with no protease and transglutaminase activities. Phenotypic characterization and DNA analyses of the isolate were performed to det. its taxonomy. Physiol. and biochem. characteristics, 16S rRNA gene sequence anal., and DNA-DNA relatedness data indicated that the isolate should be placed as a new species belonging to the genus **Chryseobacterium**. The isolate showed no growth on MacConkey agar and produced acid from sucrose. The levels of DNA-DNA relatedness between the isolate and other related strains were less than 17%. The name **Chryseobacterium** proteolyticum is proposed for the new species; strain 9670 is the type strain (=FERM P-17664).

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L11 ANSWER 4 OF 8 MEDLINE
 ACCESSION NUMBER: 84195167 MEDLINE
 DOCUMENT NUMBER: 84195167 PubMed ID: 6371900
 TITLE: Proline specific endopeptidase.
 AUTHOR: Yoshimoto T; Tsuru D
 SOURCE: TANPAKUSHITSU KAKUSAN KOSO. PROTEIN, NUCLEIC ACID, ENZYME, (1984 Feb) 29 (2) 127-33. Ref: 38
 Journal code: 0413762. ISSN: 0039-9450.
 PUB. COUNTRY: Japan
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 General Review; (REVIEW)
 LANGUAGE: Japanese
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 198406
 ENTRY DATE: Entered STN: 19900319
 Last Updated on STN: 20000303
 Entered Medline: 19840619

L11 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
 ACCESSION NUMBER: 1980:464192 CAPLUS
 DOCUMENT NUMBER: 93:64192
 TITLE: Nicotinamide **deamidase** from
Flavobacterium peregrinum
 AUTHOR(S): Tanigawa, Yoshinori; Shimoyama, Makoto; Ueda, Iwao
 CORPORATE SOURCE: Dep. Biochem., Shimane Med. Univ., Shimane, 693,
 Japan
 SOURCE: Methods Enzymol. (1980), 66(Vitam. Coenzymes, Pt. E),
 132-6
 CODEN: MENZAU; ISSN: 0076-6879
 DOCUMENT TYPE: Journal; General Review
 LANGUAGE: English
 AB A review with 9 refs.

L11 ANSWER 6 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC. DUPLICATE 2
 ACCESSION NUMBER: 1973:162747 BIOSIS
 DOCUMENT NUMBER: BA55:62740
 TITLE: PURIFICATION AND PROPERTIES OF NICOTINAMIDE
DEAMIDASE FROM FLAVOBACTERIUM-PEREGRINUM.
 AUTHOR(S): TANIGAWA Y; SHIMOYAMA M; DOHI K; UEDA I
 SOURCE: J BIOL CHEM, (1972 (RECD 1973)) 247 (24), 8036-8042.
 CODEN: JBCHA3. ISSN: 0021-9258.
 FILE SEGMENT: BA; OLD

LANGUAGE: Unavailable

L11 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 3
ACCESSION NUMBER: 1973:68603 CAPLUS
DOCUMENT NUMBER: 78:68603
TITLE: Nicotinamide **deamidase** of microorganisms
isolated from rat stomach
AUTHOR(S): Tanigawa, Yoshinori
CORPORATE SOURCE: Dep. Med. Chem., Osaka Med. Coll., Takatsuki, Japan
SOURCE: Bull. Osaka Med. Sch. (1972), 18(1), 30-47
CODEN: BUOSA5

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Almost all stomach nicotinamide **deamidase** (I) activity was
localized in the pars preventricularis of normal rats, but no activity
was

found there in the germ-free rats. I activities were found, in
decreasing
order of potency, in **Flavobacterium** peregrinum, Escherichia
coli, Streptococcus faecalis, and Lactobacillus acidophilus. I from F.
peregrinum was purified in the presence of Mn++, about 70-fold. The Km
value for nicotinamide was 2 .times. 10-7M and the pH optimum was 7.0.

If
purification was carried out in the absence of Mn++, the enzyme activity
decreased, with 1% recovery at the final step of purification. The
purified I was inactivated through dialysis against a large vol. of 0.01M
malate buffer, pH 7.0, in the absence of Mn++ and its activity was not
recovered by the subsequent addn. of Mn++ or Mn++ plus cysteine. If the
dialysis was carried out in the presence of Mn++ or Hg++, the activity
remained intact. With Hg++ this effect was only observed with cysteine

in
the reaction mixt. The half-max. level of the Mn++ and Hg++ effects for
enzyme stabilization during dialysis were 4.5 .times. 10-5M and 1.25
.times. 10-6M, resp. EDTA led to a decrease in enzyme activity but this
decrease could be completely restored by Mn++.

L11 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1971:537838 CAPLUS
DOCUMENT NUMBER: 75:137838
TITLE: Nicotinamide deamidation by microorganisms in rat
stomach
AUTHOR(S): Shimoyama, Makoto; Tanigawa, Yoshinori; Ito, Toichi;
Murashima, Ryuzo; Ueda, Iwao; Tomoda, Tsunesuke
CORPORATE SOURCE: Dep. Med. Chem., Osaka Med. Coll., Takatsuki, Japan
SOURCE: J. Bacteriol. (1971), 108(1), 191-5
CODEN: JOBAAY
DOCUMENT TYPE: ~ Journal
LANGUAGE: English

AB The bacterial species in the pars preventricularis were identified as
Flavobacterium peregrinum, Escherichia coli, Streptococcus
faecalis, and Lactobacillus acidophilus, listed in order of decreasing
deamidase activity. Nicotinamide-7-14C ingested into rat stomach
was rapidly deamidated to nicotinic acid. These results contribute to

the
accumulated evidence that microorganisms present in the pars
preventricularis of rat stomach are responsible for the deamidation of
nicotinamide to nicotinic acid, a known precursor of mammalian pyridine
nucleotides.